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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER



**Imagery analysis report**

**Modification of Launch Control Facilities at  
Pervomaysk and Derazhnya SSM Complexes, USSR (S)**

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## **MODIFICATION OF LAUNCH CONTROL FACILITIES AT PEROVMAYSK AND DERAZHNYA SSM COMPLEXES, USSR (S)**

1. (S/D) Modifications have been underway since September 1978 at the following type I launch control facilities (LCFs):<sup>1</sup> Pervomaysk LCFs AA, BB, and DD and Derazhnya LCFs AA, CC, and DD (Figure 1). The modifications include increasing the usable depth of the launch control silo, removal of the control support building, construction of a new control support building, and installation of new hardened antennas. These six type I LCFs were originally completed by August 1975.<sup>2</sup>

### **Silo Modification**

2. (S/D) The silo modification was accomplished by first removing the silo door, silo door pocket, and silo headworks. A gantry crane was erected to remove these components (Figure 2). Removal of the headworks exposed the top of the silo headworks base (Figure 3). This component was not removed. Concurrent with this activity, new upper silo components were delivered to the site and assembled on the service apron. Reassembly of the silo involved using the gantry crane to install an additional silo headworks base on top of the original silo headworks base, followed by the installation of a new headworks, a new silo door pocket, and a new silo door.

3. (S/D) The additional silo headworks base increased the usable depth of the silo from approximately 36 meters to approximately 38 meters and gave these type I LCFs the same usable depth as the type III LCFs (Figure 4). The level of the service apron was raised by adding fill dirt so that the top of the modified silo was nearly level with the service apron.

4. (S/D) Also, as a part of the modification process, the existing control support building was removed. This building was originally constructed at a 45-degree angle to the LCF service apron. A new control support building is perpendicular to the service apron and approximately 89 meters from the launch control silo.

5. (S/D) Three types of hardened antennas were also added. A dome and three washer antennas were installed next to the launch control silo and a bigrid antenna was installed off to the side—either behind or next to the silo apron.

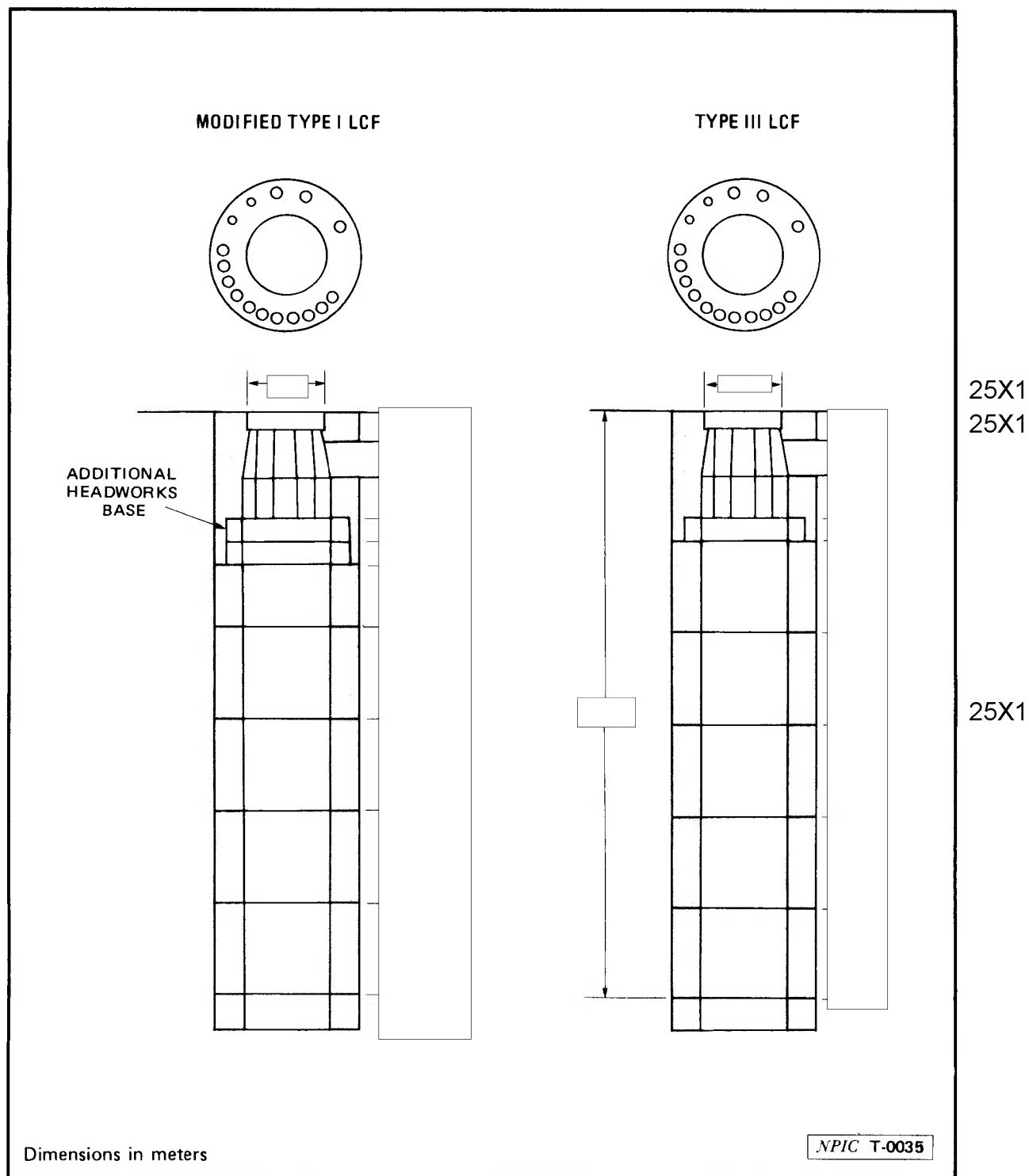
6. (S/D) Although the exact reason for these modifications is unknown, it appeared to be an overall upgrading of the older type I LCFs to make them equivalent to the newer type III LCFs.



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**FIGURE 4. LINE DRAWING OF MODIFIED TYPE I AND TYPE II LCFs**

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**REFERENCES**

**IMAGERY**

(S/D) All applicable satellite imagery acquired from September 1978 through [ ] was used in this report.

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**DOCUMENTS**

1. NPIC: [ ] PIR-012/79, *Construction Status of Launch Control Facilities at Soviet ICBM Complexes (ISR)*, Mar 79 (TOP SECRET [ ])
2. NPIC: [ ] RCA-01/0002/76, *Activity and Developments at Deployed Soviet SSM Complexes, April 1975--May 1976*, Oct 76 (TOP SECRET [ ])

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(S) Comments and queries regarding this report are welcome. They may be directed to [ ] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, [ ]

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